

CLAIMS

1. (Amended) A process for producing a porous metal body, comprising the following steps:

(1) a step of maintaining under reduced pressure in the range between 10^{-1} and 10^{-6} Torr a raw metal material within a temperature range which is 50 to 200°C lower than the melting point of the metal in a sealed vessel to thereby degas the raw metal material;

(2) a step of melting the raw metal material under pressurization of between 0.1 and 10 MPa by introducing at least one type of gases selected from the group consisting of hydrogen, nitrogen, argon and helium into the sealed vessel to thereby dissolve the gas or gases in the molten metal; and

(3) a step of pouring the molten metal into the mold equipped with a cooling apparatus while controlling the gas pressure above and the temperature of the molten metal, cooling and solidifying the molten metal in a mold inside the sealed vessel to form a porous metal body.

2. (Amended) The process for producing a porous metal body according to claim 1, wherein the metal is selected from the group consisting of iron, copper, nickel, cobalt, magnesium, aluminium, titanium, chromium, tungsten, manganese, molybdenum, beryllium and alloys comprising one or more of these metals.

3. (Canceled)

4. (Canceled)

5. (Canceled)

6. (Canceled)

7. (Canceled)

8. (Amended) The process for producing a porous metal body according to claim 1, wherein the pressure applied in step (2) is between 0.2 and 2.5 MPa.

9. (Canceled)

10. The process for producing a porous metal body according to claim 1, wherein the cooling and solidification of the molten metal in step (3) is performed by a continuous casting method.